



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,922	08/20/2003	Jung-Hwan Choi	9898-296	9301
20575	7590	02/02/2005	EXAMINER	
MARGER JOHNSON & MCCOLLOM, P.C. 1030 SW MORRISON STREET PORTLAND, OR 97205			TRAN, ANH Q	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 02/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/645,922

Applicant(s)

CHOI, JUNG-HWAN

Examiner

Anh Q. Tran

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-33 is/are allowed.
- 6) ☒ Claim(s) 1-13, 17-23 and 34-37 is/are rejected.
- 7) ☒ Claim(s) 14-16 and 24-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date: 81904, 82003
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 10 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitations recites "MH, HM, JJ, LM, ML, and LL transitions" are not described in the specification.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-9, 11-13, 17-20, 22-23, 34-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Lesea (6,437,713).

1. Lesea shows a semiconductor device (Fig. 1), comprising:

a transmitter (6, Fig. 1) capable of encoding first (100, Fig. 3) and second input signals (100) as a plural-bit symbol signal responsive to first ([0, 0, TSN:TS3], Fig. 5) and second clocks ([0, TSN:TS2]), respectively, the first clock being out of phase from the second clock; and

a receiver (8, Fig. 6) capable of generating first (P1) and second output (P2) signals by decoding the symbol signal responsive to third ([0,0,0, TSX:TS4], Fig. 8 ) and fourth clocks ([0,0,0, TSX:TS4] and [0,0, TST:TS3]), respectively.

2. Lesea shows the plural-bit symbol signal is at least two bit data (4 bits DATA, Fig. 3).

3-6. Lesea shows the at least two bit data is a three level data (four level, col. 3, lines 45-52).

7. Lesea shows the second clock ([0, TSN:TS2] is 180 degrees which is 90 degrees out of phase from the first clock [0,0, TSN:TS3] that is 90 degrees) is 90 degrees out of phase from the first clock.

8. Lesea shows the fourth clock is 90 degrees out of phase from the third clock (col. 7, lines 40-67).

9. Lesea shows the symbol signal comprises a plurality of symbols.

11. Lesea shows a first transmitting circuit (117, Fig. 3) capable of generating a first transmitting signal (A1) by manipulating the first input signal responsive to the first clock (one of clock signal TS[N:1]);

a second transmitting circuit (118) capable of generating a second transmitting signal by manipulating the second input signal (A2) responsive to the second clock (other of clock signal TS[N:1]); and

a superposition node (107) capable of generating the symbol signal by superpositioning the first and second transmitting signals.

12. Lesea shows a first receiving circuit (411, Fig. 6) capable of generating the first output signal by manipulating the symbol signal responsive to the first and a fifth clocks (two clock signals from TS[X:1]), the fifth clock being out of phase from the third clock; and

a second receiving circuit (412) capable of generating the second output signal by manipulating the symbol signal responsive to the fourth and a sixth clocks (two other clock signals from TS[X:1]), the sixth clock being out of phase from the fourth clock.

13. Lesea shows the fifth clock (510, Fig. 8) is 180 degree out of phase from the third clock; and where the sixth clock (515) is 180 degrees out of phase from the fourth clock.

The limitations of claims 17-20, 22-23, 34-37 are rejected as above claims.

***Allowable Subject Matter***

3. Claims 14-16, 24-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. Claims 28-33 are allowed.

5. The following is an examiner's statement of reasons for allowance: a first receiving circuit capable of generating first output data and first even and odd data responsive to a first and second clocks..

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Arimilli et al (6,703,866) discloses a transmitter circuit and receiver circuit for interfacing between circuit module for differential mode with responsive to two different clock phase.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Q. Tran whose telephone number is 571-272-1813. The examiner can normally be reached on M-TH (7:00-5:30) Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2819

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**ANH Q. TRAN**  
**PRIMARY EXAMINER**



1/27/05